IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently amended) A method ~~of~~ for determining an aspiration flow and an aspiration time for aspiration of a dead space, associated with breathing assistance involving a breathing cycle having an expiration phase and an inspiration phase, comprising the steps of:

determining a volume of a dead space to be aspirated during the expiration phase;

determining an expiration flow with respect to time during at least ~~at least~~ a portion of the expiration phase; and

optimizing an aspiration time and an aspirating flow, for aspirating said dead space, dependent on said volume of said dead space and said expiration flow with respect to time ~~for allowing~~ to allow said dead space to be aspirated during ongoing expiration with a minimum of interference to flow balance in said expiration flow at at least one point selected from the group consisting of a point upstream of said dead space and a point downstream of said dead space.

2. (Original) A method as claimed in claim 1 comprising supplying fresh gas to the dead space during the inspiration phase.

3. (Original) A method as claimed in claim 1 wherein the step of measuring an expiration flow comprises measuring said expiration flow downstream from said dead space and adding said aspiration flow to the measured expiration flow.

4. (Original) A method as claimed in claim 1 wherein the step of optimizing the aspiration time and the aspiration flow comprises maintaining said aspiration time below a predetermined upper limit for the aspiration time and maintaining the aspiration flow below a predetermined upper limit for the aspiration flow.

5. (Original) A method as claimed in claim 1 comprising determining the aspiration flow according to the equation:

$$\dot{V}_{aspids}(t) = \dot{V}_{\exp}(t) + \frac{V_D}{t_{aspids}}$$

where $\dot{V}_{aspids}(t)$ is the aspiration flow; $\dot{V}_{\exp}(t)$ is the determined expiration flow; V_D is the dead space volume and t_{aspids} is the aspiration time.

6. (Original) A method as claimed in claim 1 wherein the step of determining an expiration flow comprises measuring the expiration flow with respect to time during an expiration phase wherein no aspiration occurred, preceding said expiration phase in which the dead space is to be aspirated.

7. (Original) An apparatus for aspiration of gas from a dead space associated with breathing assistance involving a breathing cycle having an expiration phase and an inhalation phase, said apparatus comprising:

aspiration tubing in fluid communication with a dead space;

an extraction unit in fluid communication with said aspiration tubing; and

a regulating unit comprising a first signal input at which an expiration flow signal is received, representing a determined expiration flow with respect to time, and a second signal input at which a dead space signal is received, representing the dead space to be aspirated during the expiration phase, said regulating unit optimizing an aspiration time and an aspiration flow of said aspiration to allow the dead space to be aspirated during an ongoing expiration with a minimum of interference with a flow balance in the expiration flow at a point selected from the group consisting of a point upstream of said dead space, and a point downstream of said dead space, said regulating unit operating said extraction unit to generate said aspiration flow during said aspiration time.